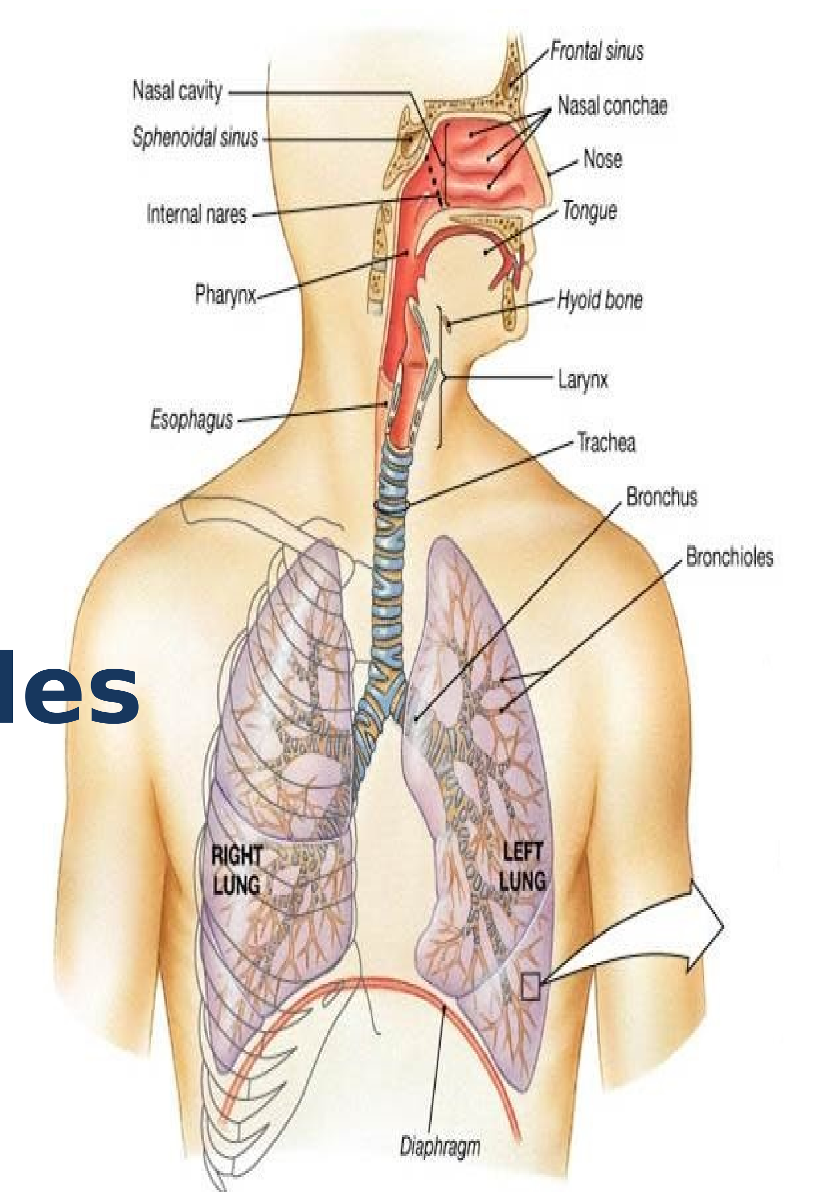

spiratory System

Agenda

Anatomy Of Respiratory System
Drugs Without Decongestant
Drugs With Decongestant
Influenza & Common Cold
Cough Product
Bronchial Asthma Product

tomy of Respiratory sys

- -Nose &Nasal cavity
- -Para nasal sinus
- -Pharynx (throat)
- -larynx
- -Trachea
- -Bronchi & Bronchioles
- -Alveoli
- -Lung



tomy of Respiratory sys

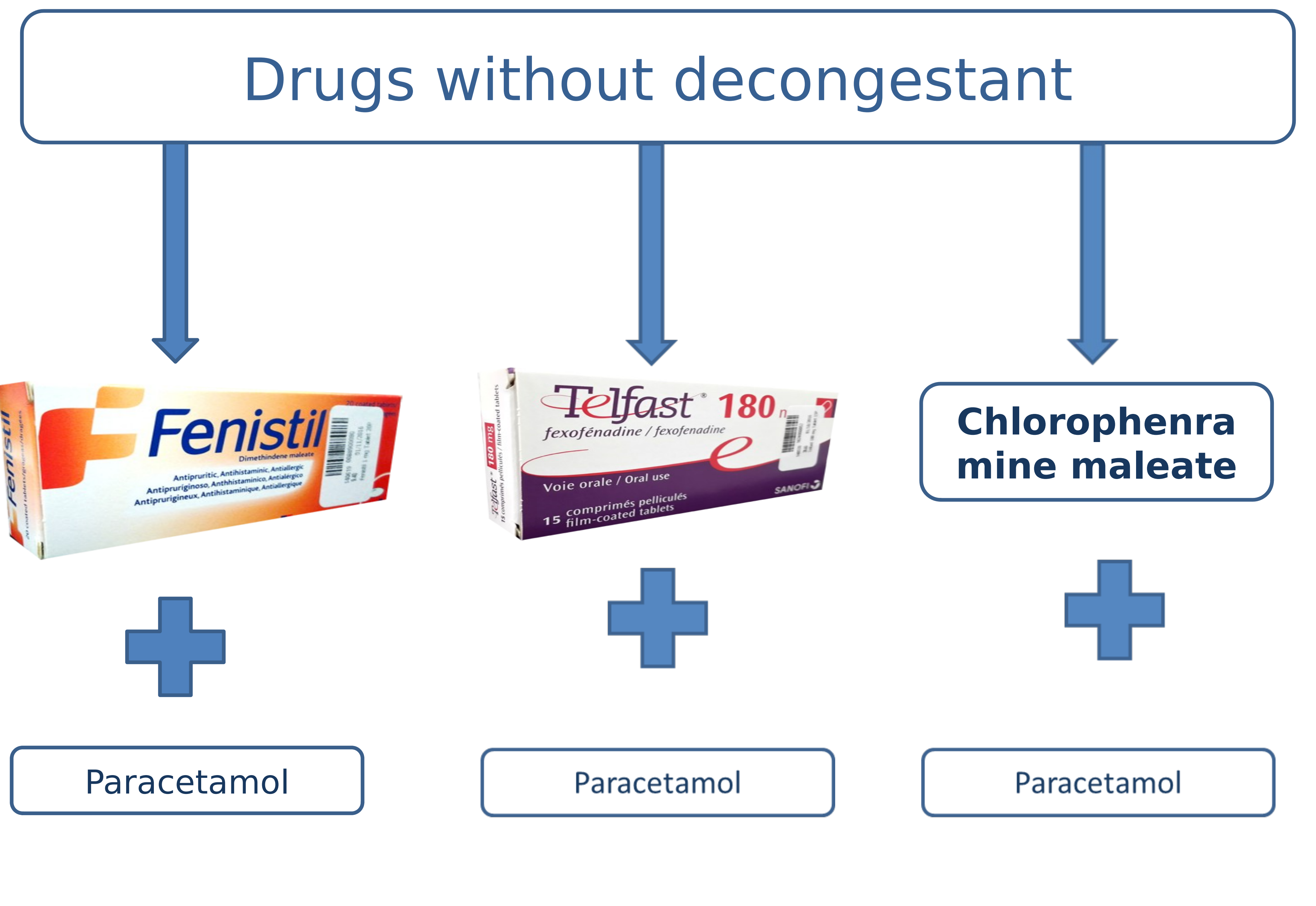
- **Para nasal sinuses**
  - **Frontal, sphenoid, ethmoid and maxillary bones**
  - **Open into nasal cavity**
  - **Lined by same mucosa as nasal cavity and perform same functions**
  - **Also lighten the skull**
  - **Can get infected: sinusitis**

ugs without decongesta

Cafamol → Paracetamol +doxylamine +caffeine

Adol P.M → Paracetamol + diphenhydramine





amylin syp contain Diphenhydramine

ugs without decongesta

group suitable for infant ,BPH,Glucoma ,Diabetic, Heart disease

g of choice for glucoma &BPH patient





Paracetamol

g of choice for infant Patient





Paracetamol

e of fenistil dp  **one dp /kg twice daily**

Drugs with decongestant

❑ **Common two decongestant**

❖ **Phenylephrine**

❖ **Pseudo ephedrine**

❑ **Drugs contain phenyl epherine**

❖ **Sine up syp**



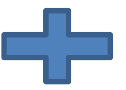
Phenyl epherine



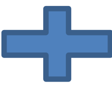
Clorophenramine maleate

❖ **Panadol Cold & Flu yellow**

Phenyl epherine



paracetamol



caffeine



Drugs with decongestant

❖ **Vibrocil gel local effect**

Phenyl epherine



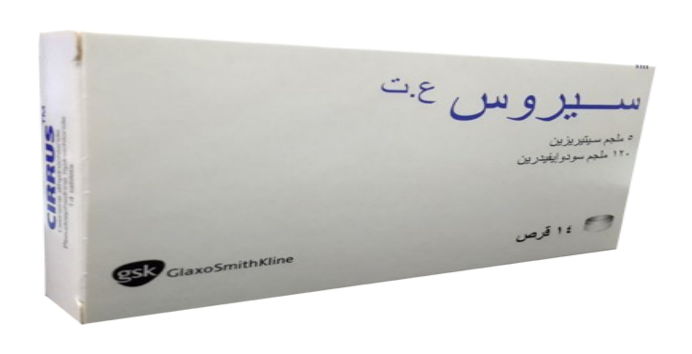
Dimethindene



Drugs with decongestant

gs contain pseudoephedrine usual available in combi
udoephedrine &non – sedating





atadine &pseudoephedrine 120mg **citrizine &pseudoephedr**

e twice / day

Drugs with decongestant

- **Pseudoephedrine & sedating**

Actifed **Rinofed**

Pseudoephedrine 60mg & Tripoloridine
dose twice or three times daily





Flumed

Pseudoephedrine & paracetamol &chlorophenramine

Drugs with decongestant

❖ **Pseudoephedrine & sedating**



pseudo

e[illegible]rine &triprolodine &guafinasine

pseudoephedrine &paracetamol&diphenhydramine

Pseudoephedrine & chlorophenramine &dextromethorphan

Drugs with decongestant

- **Drugs contain pseudoephedrine & paracetan**

- **Example**
  - **Adol Sinus**
  - **Flutab sinus**
  - **Sinofree**
  - **Panadol sinus**



- **Drugs contain pseudo ephedrine & ibuprofen**
- **Example**
  - **Sapofen plus**
  - **Advil Cold & Sinus**



- **Ps with paracetamol or Ps with ibuprofen preferable in sinusiti**

Drugs with decongestant

le Effect of Decongestant

ertension
mnia
 to variation may lead to sedation high dose cause respiratory d

sk for Glaucoma & prostatic patient

itability special in baby

ntra-Indication in :

gnant
ontrolled Hypertensive
ocardial Infarction
ucoma –Infant - Hyperthyroidism

NFLUENZA & COMMON COL

DISEASE	INFLUENZA	COMMON COLD
cause	Influenza type A&B virus controlled by vaccination (Vaxigrip ,Influvac) avian influenza virus, swine influenza virus all are series of HN virus (pandemic)	more than 200 different viruses that can cause the cold (as coronavirus , rhinovirus , adenovirus ,Para infl. ,coxsackie , paramyxo virus
Onset	Sudden	Gradually
Fever	High	Mild To Moderate
Chest Discomfort & Cough	Begin chest discomfort & dry painful cough (Ascending)	Descending finished by hacking & productive cough
Congestion Stuffy Runny	Rare	First symptoms then pain in pharyngeal cavity &trachea then bronchitis begin by dry then hacking wet cough

nes of Treatment for Common Cold

Cough Product

h is sign of problem in Respiratory System (lower& u

Factor For Cough(Counseling) :

e

s

en as pollen grain ,dust

important risk factor as viral & bacterial infection

ent type of stress,…….

gh product classified according to type of coug

h product to treat dry cough

h product to treat wet cough

Cough Product

Dry Cough Product



- Suppress cough as dextromethorph

- Codeine containing product

- Honey containing product

Cough Product

y Cough Product

ne containing product







Thyme & Primula **Thyme & Ivy**

hyme cap

nti histamine help in cough suppressant

Cough Product

Cough Product

containing product used for dry & wet cough
nainly in wet cough also propalsaft

ation of cough suppressing medication
ıgh
e little sputum
ugh but cause chest pain ,disturb the sleeping

ney not given for infant less than 12 month
where may lead to risk of botulism

Cough Product

et cough product

t cough lead to large amount of sputum

may accompanied by other symptoms as

ood ,chest pain ,fever

t cough product in pharmacy include the follow

ectorant cough product

colytic cough product

coregulator

Cough Product

Wet cough product

Expectorant cough product

Expel sputum as in guafinasine

(Guaphan , Rubitussin,Mucinex)





Cough Product

t cough product

colytic cough product

uify sputum as in bromohexine **(depolarize protein**







Cough Product

t cough product

olytic cough product

broxol is metabolite of bromohexine as Mucos





ucolytic must take after meal to protect the mucous membrane of stor
preferable in children but take care with the infection

Cough Product

cough product

oregulator product

broke the bisulphide bond in the mucous

carbocystine (Rhinathiol 2%,5% & with promet





Cough Product

t cough product

coregulator product

etylcystine (ACC 200mg ,600 mg,….)

yl cysteine used as antidote for paracetamol toxicity



e specialist prefer the mucoregulator where not increase cough

er application for mucolytic and mucoregulator produ

rtility to decrease the viscosity of semen & cervical mucous

quefy the mucous in sinusitis

quefy the discharge in otitis media & swelling

xpectorant or increase the descending infection as mucolytic

Cough Product

cough: remember that decongestant has good role in control this typ
ugh : remember that the soothing & demulcent product has good role i

component cough syp

oduct contain different ingredient by different effec
orant
tic
suppressant
tamine
estant
tex ,Rinofed Expectorant ,Flumed DM,Exylen,Amydramine Expec
ype of cough syp is suitable for cough after common cold ,irrita
neezy cough







Cough Product

al cough product

oducts mostly contain ivy but also may contain thyme or euc
duct is widely used now
ucts contain ivy used for wet cough mainly
oduct which contain alcohol can effect in dry cough as activox ,mellorsum ,bronc
ain saponin & emetine which stimulate vomiting specially in chi
ecautions in prescribing the Ivy product:
e bottle before use
ribe for children less than 6 years
duct with high concentration of ivy as sinuc must give the recommended dose 2
m elixir is one of herbal product
for Ivy containing product
,tussipan ,juspan,sinuc ,ezipan ,liblab,.....)













Cough Product

rbal cough product

- Herbal drug PLERUS
- ve Ingredient Pelagonium
- ich is sedoids has anti inflammatory, antiviral

ect On All Type Of Cough

- ief cough & mucous by controlling underlying cause
- t patient complain from cough after flu ,cold , smok
- t patient complain from mucous
- t patient complain from chest discomfort
- RUS as herbal product is very safe & registered in S
- gnant under doctor consultation

tating Women Is Safe

betic & Hypertensive Patient Safe& Sugar

- n be combined safely with Antibiotic & other medic

s Better Not Be Used At Same Time With Wa

Cough Product

ugh product for children

mydramine children, Rhinathiol 2%,Exylin children
Rhinathiol promethazine , soolan









Cough Product

r to Honey as mellorusm ,Bronchicum contain glycerol
efore can be used as demulcent effect in irritant or dr
must be used by small dose numerous number
containing product as proplasaft
point of honey product suitable for children
-indicated for diabetic patient
–indicated for asthmatic patient but now contain alco
product suitable for diabetic patient :
gar free cough syp ,herbal cough syp,…..
product suitable for pregnant:
l cough product (jospan ,prospan,….)
product with bronchodilator is Bronquiur

gs used for bronchial asthma pa

ial Asthma

an inflammatory disease of the air way characterized
odes of acute bronchoconstriction causing the symptoms
chial asthma patient

toms of bronchial asthma

lt breathing specially in expiration
respiration
tightness
ing cough , repeated cough also increase in night all
se symptoms repeated weekly or daily

symptoms may resolve spontaneously
h use of quick relief medication
acting B2 agonist drug)

gs used for bronchial asthma pa

- **Asthma mediator** as histamine ,tryptase ,leukotrienes,bradykinine
- **These mediators** diffuse through out air way wall & cause muscle contraction & vascular leakage
- **other mediator** is called cytokines transmitted by lymphocyte
- **Cytokines** as mediator responsible for the more sustained bronchi-constriction

gs used for bronchial asthma pa

- **Each type of mediator is inhibited by certain drug as**
- **Histamine inhibited by antihistamine**
- **Leukotriene inhibited by Montolukast**



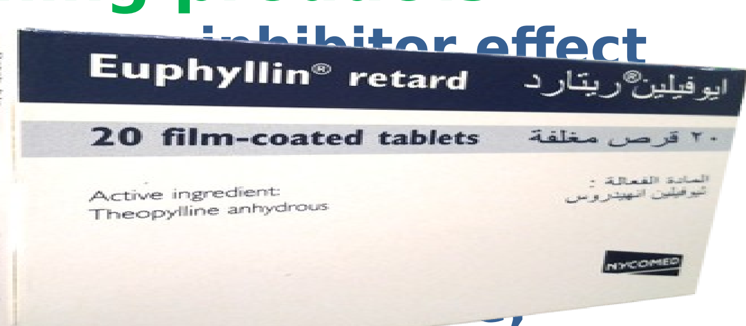
- **But cytokines inhibited only by corticosteroids**

gs used for bronchial asthma pa

- **Risk factor for bronchial asthma or trigger stimuli as cough**

- **The drugs used for bronchial asthma is divided into:**
  - **Bronchodilator**
  - **Anti allergic product**

- **Bronchodilator product include the following :**
  - **Methyl xanthine containing products**
    - **These drug has phosphodi... inhibitor effect**
    - **This lead to increase in cyc... bronchodilator effect**
    - **Example :theophylline con...**
      { Theoped , Theodur , Qu... , Minophylline }



gs used for bronchial asthma pa

- **Points about theophylline containing drug**
- **First drug of bronchodilator & more effective in treat nocturnal bronchospasm**
- **Theophylline has narrow therapeutic index drug therefore**

  the usual dose is 3-4 mg/kg 3-4 time daily in non sustained

  release drug

  but in sustained release must follow the recommended frequency

  of the dose which is mostly twice /day (begin by low dose)
- The smoker need to increase the dose or 15-20 mg/kg/day divided into 3-4 doses
- **Side effect of theophylline include :**
  - **GIT upset therefore must take after meal**
  - **Anxiety ,insomnia , tremor , nervousness , may**

gs used for bronchial asthma pa

➢ **Beta agonist drug act on the receptor as agonist & increase the C-AMP which lead to bronchodilator effect & classified into :**

❖ **Non selective B-agonist include :**

- **Hexaprenaline (Ipradol),isoprenaline,alpha & beta agonist (ephedrine)**

❖ **Selective B-agonist divided into :**

- **Short acting**
- **Long acting**



❖ **Short acting B-agonist**

- **Salbutamol (ventolin)**
- **Terbutaline (bricanyl)**
- **This type of beta agonist is very important in acute attack or during the asthma attack**
- **Salbutamol may be less effective in age less**

gs used for bronchial asthma pa

- **Selective long acting B – agonist bronchodilator include :**
- **Salmetrol (servent)**
- **Salmetrol in combinatic orticosteroid as Se**
- **Formoterol as in foradil**
- **Formoterol in combination with cortic d as symbicort**

gs used for bronchial asthma pat

❖ Other uses of B – agonist

- Pregnancy fixation as rotidrine (yutobar)
- Fat burner as clembutrol

❖ Side effect of B – agonist

- Tachycardia
- Arrhythmia or palpitation
- Nervousness , insomnia ,anxiety
- Irritability , sweating

gs used for bronchial asthma pat

❖ **Muscarinic receptor antagonist**

- **Ipratropium (atrovent)(inhaler & nebulizer)**
- **Thiatropium (Spiriva)(rotahaler)**
- **In combination with bronchodilator as combivent**
  (salbutamol + Ipratropium)
- **Side effect :**

o **Lead to anticholine pine like effect)**
o **Dry mouth**
o **Blurred vision**
o **Urine retention**
o **Constipation**



gs used for bronchial asthma pat

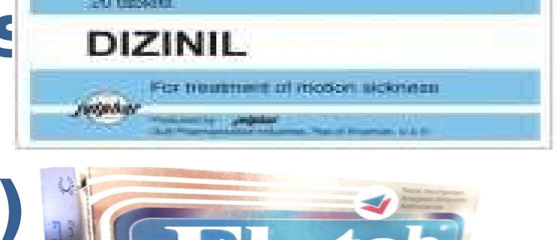
- **Anti allergic products as**
  - Mast cell stabilizer & H1 blocker
  - Anti leukotriene
  - Corticosteroids
  - H1 blocker (anti histamine) according to lipophilic effect

    divided into

- ✓ **High lipophilic**

    cross BBB& lead sedation (s

anti histamine)



Ex. Dizinil (dimenhydrinate)

Ex. Flutab (diphenhydramine

gs used for bronchial asthma pat

❖ **H1 blocker**

✓ **Moderate lipophilic moderate cross BBB** (moderate sedating)

Ex. Zyrtec , Zertazine (citrizine)



Ex. Levozal (levocitizine)



gs used for bronchial asthma pat

❖ **H1 blocker**

✓ **Low lipophilic = High hydrophilic**

not cross BBB (non sedating)

Ex.claritin ,lorin ,....(loratidine)

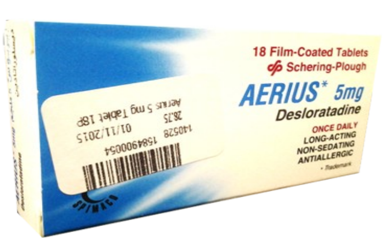




Ex. Aerius , Deslor ,Neorin...
(desloratidine)







E Telfast Fexodine , fenadine)





gs used for bronchial asthma pat

❖ **Anti Leukotriene (Leukotriene modifier)**

✓ **Ex. Montelukast**





gs used for bronchial asthma pat

❖ **Corticosteroid**

✓ **Has indirect effect which inhibit the mediator and prescribed orally ,injection or by inhaler** (surface active effect)

as following :

a) Corticosteroid only

Fluticasone (flixot



Budesonide(pulmicort)

gs used for bronchial asthma pat

❖ **Corticosteroid**

a) Corticosteroid only



Cyclosinide (Alvesco



Beclomethasone (Becl

gs used for bronchial asthma pat

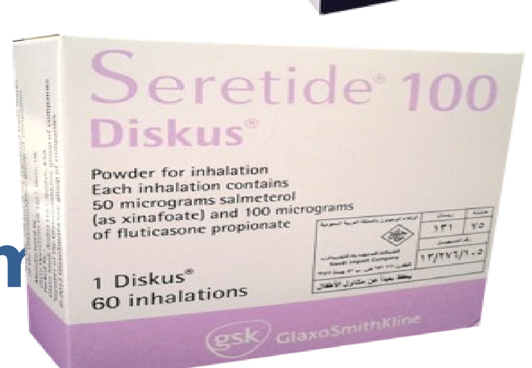
❖ **Corticosteroid**

a) Corticosteroid only

b)Corticosteroid combined with bronchdilator

- **Symbicort(budesonide & formetro**

- **Seretide (fluticasone & salm**



gs used for bronchial asthma pat

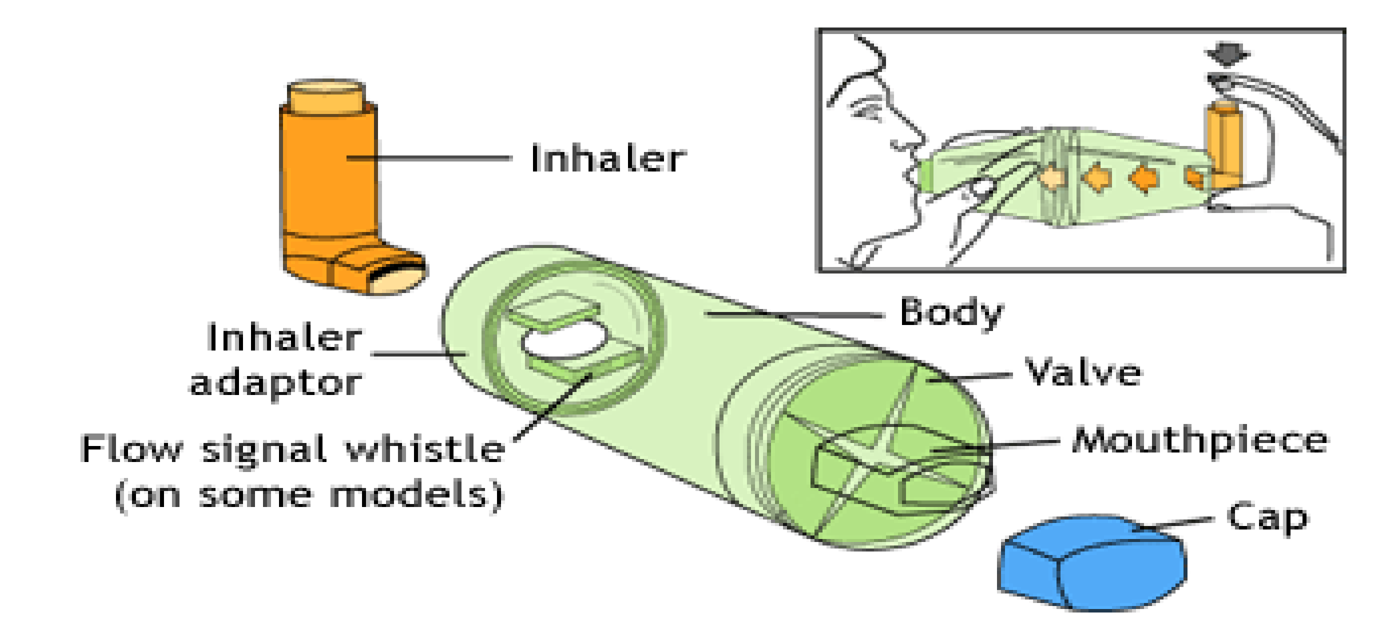
❖Dosage form

- There are different dosage form as
  - Syrup , Supp , Injection
  - Inhaler (this dosage form need spacer)
    spacer have different size according to age
    infant ,child ,adult
  - Rotahaler dosage form (how to use ?)
  - Turbohaler dosage form (how to use?)
  - Diskus dosage form (how to use ?)
  - Nebulizer dosage form (need nebulizer equipment)
  - The nebulizer drugs as (ventolin solution
    pulmicort nebulizer ampoule, flixotide


O/I
MICRO A·I·R
omron


O/I
omron


OMRON


Inhaler
Body
Inhaler adaptor
Valve
Mouthpiece
Flow signal whistle (on some models)
Cap

gs used for bronchial asthma pat

- **Side effect of corticosteroid drug as (turbohaler ,rotahaler,inhaler)**

- Candida infection , Oropharengael fungal infection
- Precipitate on vocal card & lead to horse sound

- **Patient education (counseling)for patient using SAC**

- Mouth wash with water at least or mouth wash
- Immune stimulant to prevent the infection
- Increase salivation by use gum to prevent dryness & infection

gs used for bronchial asthma pat

- ❖ **Drug for chronic obstructive pulmonary disease (COPD)**
- ✓ **<u>COPD is an inflammatory disease</u>**
- ✓ **<u>COPD TREATMENT:</u>**
- ➢ **All drugs used in treat asthma**
- ➢ **New drug Daxas (Roflumilast)**
- ▪ **It is block phosphdiasterase 4(PDE4)with unique anti-inflammatory effect**
- ▪ **The drug blc ... e problem**
- ▪ **also relax th ... ir passage**
- ▪ **Take once daily**

gs used for bronchial asthma pat

- **Mild attack of bronchial asthma use one bronchodilator**

- **Children below 6 year use theophylline 15-20 mg/kg/day**
  in divided dose 3-4 times
  or salbutamol ,terbutaline 0.1-0.3 mg /kg/day divided
  into 3-4 times

- **N.B ventolin syp 5 ml = 2mg**

- **Salbutamol nebulizer 0.25-0.5 ml with 3 ml saline 3-4 doses/day**

gs used for bronchial asthma pat

- **Moderate attack** use **two bronchodilator** with each other
  3-4 doses/ day till wheeze free
- Also cough product mucolytic or expectorant with bronchodilator is good
- Mild & moderate persistent corticosteroid is necessary
- Sever case **HOSPITAL MANAGEMENT & NEBULIZER**
- Patient education & emotional support
  asthmatic patient should be educate

about :

- ✓ Nature of disease & prognosis
- ✓ How to avoid trigger stimuli ?

gs used for bronchial asthma pat

- **Common mistake**
- in asthma therapy use B2agonist in age below than 18 months only where the receptor are not well develop & the effect is minimal therefore use of corticosteroid with it to increase the effect
- Use corticosteroid as first line drug in acute sever attack but nebulizer salbutamol is most rapid drug
- Adrenaline & theophylline also rapid than corticosteroid
- Also use antibiotic in acute asthmatic attack will not alter the course of illness

gs used for bronchial asthma pat

- Avoidance of food where asthmatic patient must avoid only food which increase attack
- Restriction physical activity is harmful but must be use inhalation before start



THANK YOU

Question	Answer
1	c
2	c
3	b
4	a
5	b
6	c
7	b
8	b
9	a
10	a
11	c
12	a
13	a
14	a
15	b
16	b
17	b